

effectiveness data were derived from head-to-head randomized trials (ARISTOTLE and AVERROES); main events considered in the model were ischemic and hemorrhagic stroke, systemic thromboembolism, bleeds (both major and clinically relevant minor) and cardiovascular hospitalizations. Expected survival was projected beyond trial duration using national mortality data adjusted for individual clinical risks and adjusted by utility weights for health states derived from literature. Unit costs were collected from published Italian sources. Costs (2013 €) and health gains accruing after the first year were discounted at an annual 3.5% rate. Deterministic and probabilistic sensitivity analyses (PSA) were carried out to assess the effect of input uncertainty. **RESULTS:** Incremental LYs (0.31/0.19), QALYs (0.28/0.20), and costs (1,932/1,104) are predicted with the use of apixaban relative to aspirin and warfarin, respectively. The incremental cost effectiveness ratios (ICERs) of apixaban were € 6,794 and € 5,607 per QALY gained, respectively. In PSA, the probability of apixaban being cost effective relative to aspirin and warfarin was 95% and 93%, respectively, for a WTP threshold of € 20,000 per QALY gained. Univariate analyses indicate that results were most sensitive to variations of the absolute risk reduction for cardiovascular events with apixaban. **CONCLUSIONS:** Apixaban is expected to increase life expectancy and quality-adjusted life expectancy, but also costs dedicated to Italian NVAF patients, as compared to standard of care. The resulting ICERs have high probabilities of being below the conventional thresholds of WTP for health benefits of the SSN, indicating efficient allocation of health care resources.

## PCV84

# ASSESSING THE COST EFFECTIVENESS OF AN ANTICOAGULATION CLINIC IN COMPARISON WITH THE USUAL MEDICAL CLINIC IN KUALA LUMPUR HOSPITAL

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**OBJECTIVES:** Systematic anticoagulation management clinic is now recommended to manage warfarinized atrial fibrillation (AF) patient. In Malaysia, the service is recently introduced as pharmacist managed Warfarin Medication Therapy Adherence Clinic (WMTAC). The objective of the present study was to assess the cost effectiveness of anticoagulation clinic in comparison with usual medical in Kuala Lumpur Hospital. **METHODS:** A Markov model built using the provider perspective and 20 year time horizon was used to assess the cost effectiveness. The base case analysis assumed a cohort of patients with AF 57 years of age with comorbid illnesses. Data sources include a 6 month retrospective cohort analysis of the effectiveness of the clinics, the cost of drugs, cost of personnel and space of the clinics, cost of monitoring and cost of adverse events were obtained from the local source and publications. The transition probabilities of these clinics outcomes were obtained from a literature search. Future costs were discounted by 3% to convert to present values. All costs were in Ringgit Malaysia (RM) based on year 2012. **RESULTS:** The results of a 20-year period model showed that UMC was dominated by the WMTAC in the same time period. The mean cost of the WMTAC was RM 5864 whereas the UMC cost was RM 6550. The sensitivity analysis showed that clinic treatment costs and effectiveness influenced the cost-effectiveness. If the cost of WMTAC was increased by 50% of the current cost, the WMTAC would not be a dominant intervention. WMTAC was also cost effective for a willingness to pay of RM32000. **CONCLUSIONS:** The anticoagulation management service appears to cost less and provide greater effectiveness than usual care. In conclusion, the Markov model suggests that from the provider perspective the anticoagulation clinic is a more cost effective option than the usual medical clinic in Kuala Lumpur Hospital.

## PCV85

# COST-EFFECTIVENESS OF RANOLAZINE FOR THE TREATMENT OF ANGINA PECTORIS IN RUSSIA

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**OBJECTIVES:** To assess cost-effectiveness of ranolazine in Russian patients with angina pectoris. **METHODS:** A model was developed to compare a strategy of treatment of angina pectoris with ranolazine and a traditional therapy in patients with at least 3 heart attacks per week. The analysis was based on the results of ERICA (Efficacy of Ranolazine in Chronic Angina) study that included Russian patients and reflected a routine Russian practice for the treatment of the disease. The analysis included costs of drug therapy, emergency care and hospitalization. Effectiveness rate was measured as a change of frequency of angina attacks compared to initial level estimated by SAQ (Seattle Angina Questionnaire). Sensitivity analysis considered the change of parameters in different length of hospitalization. **RESULTS:** Total costs in ranolazine group were insignificantly higher than in control group (573.84 RUB per patient). At the same time, ranolazine changed the structure of costs: expenditures on medications grew while costs of emergency care and hospitalization reduced. CER value was 1640.86 in ranolazine group, and 1964.63 (1.2 times less) in group of traditional therapy. The change of hospitalization length in sensitivity analysis was also more favorable in case of ranolazine: 164 479.81 vs 197 300.02 RUB/unit, which confirms previous results. **CONCLUSIONS:** The use of ranolazine in patients with >3 heart attacks of angina pectoris per week is clinically and economically substantiated.

## PCV86

# COST-EFFECTIVENESS ANALYSIS OF TICAGRELOR IN TREATING PATIENTS WITH ACUTE CORONARY SYNDROME IN HONG KONG

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**OBJECTIVES:** The multi-centered, double-blind, randomized PLATO trial on 18,624 patients from 43 countries has demonstrated that ticagrelor was superior in reduc-

ing cardiovascular mortality, myocardial infarction (MI), or stroke among patients with acute coronary syndrome (ACS) compared to clopidogrel but without a significant increase in major bleedings. In Hong Kong, generic clopidogrel was introduced in 2012. This study aimed to evaluate the long-term cost-effectiveness of ticagrelor in ACS patients in Hong Kong (HK) from a public hospital's perspective. **METHODS:** A two-phase Markov model was used to estimate the short- and long-term cost-effectiveness measured as cost per quality-adjusted-life-year (QALY) and cost per life-year-gained (LYG) over 1 year, 5 years and patients' lifetime. Direct medical costs were HK-specific and patients' resource use, rate of cardiovascular events (i.e. MI and stroke) and utility data were from published literature. All costs were presented as 2014 figures, cost and effectiveness were both discounted at 3% per annum. Sensitivity analyses were performed to test model robustness. **RESULTS:** Despite the great difference in the daily drug cost of ticagrelor and generic clopidogrel (US\$2.8, vs US\$0.10, 1US=7.8HK), the overall cost of management between the 2 groups remains similar. Our study shows that the incremental cost-effectiveness ratios (ICER) of ticagrelor were reduced substantially from US\$16,071/LYG and US\$19,493/QALY in the first year to US\$302/LYG and US\$357/QALY over a lifetime time horizon due to improvements in health outcomes. The ICER values were all cost-effective based on the WHO 3xGDP criteria (GDP 2013=US\$7,860). The results are sensitive to cost of generic clopidogrel. **CONCLUSIONS:** Treating ACS patients with lifetime use of ticagrelor can potentially reduce the cost of management and increase the cost-effectiveness due to better health outcomes as compared to generic clopidogrel. Ticagrelor therapy appears to be cost-effective both on short- and long-term assessment in the public health care sector of Hong Kong.

## PCV87

# THE COST OF INCREASING PHYSICAL ACTIVITY AND DECREASING BODY MASS INDEX FOR MID-LIFE AFRICAN WOMEN

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**OBJECTIVES:** The purpose of this project was to evaluate the incremental costs of increasing physical activity and improving body composition for a lifestyle walking program targeting sedentary African American women. **METHODS:** The Women's Lifestyle Physical Activity Program was a randomized behavioral trial that included a group intervention with social support and culturally relevant, tailored content about increasing physical activity and an automated telephone response system to track physical activity for sedentary African American women ages 40-65. The principal outcomes were change in minutes of walking and moderate and vigorous physical activity per week, and body mass index (BMI) between baseline and 24 weeks. Incremental cost effectiveness ratios (ICER) were calculated for each outcome. The cost-effectiveness analysis included both program and participant costs and was calculated in 2013 US dollars. **RESULTS:** For the 260 participants in the analysis, participant costs (e.g., group session attendance, logging physical activity in the ATR system) were \$152 ± 42, while program costs (e.g., group session facilitation, materials and supplies) were \$164 ± 21, for a total cost of \$316 ± 59. Walking increased by 200 minutes per week at 24 week, with an ICER of \$1.64 (95% CI, 1.63 – 1.66) per minute, moderate and vigorous physical activity increased by 117 minutes per week, with an ICER of \$2.79 per minute, and BMI decreased by 0.09 points, with an ICER of \$3463 (95% CI, 500 – 9,540) per 1-point reduction. **CONCLUSIONS:** The Women's Lifestyle Physical Activity Program is a relatively low cost strategy for increasing physical activity. The incremental cost of increasing walking minutes is substantially lower than for moderate and vigorous physical activity. The participant costs related to time in the program were more than half of the total costs, suggesting that practitioners and policymakers should consider the participant cost when disseminating group programs into practice.

## PCV88

# COST EFFECTIVENESS ANALYSIS OF APIXABAN VERSUS OTHER NOACS FOR THE PREVENTION OF STROKE IN ITALIAN NON-VALVULAR ATRIAL FIBRILLATION PATIENTS

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**OBJECTIVES:** The study assessed the lifetime cost-effectiveness of apixaban in preventing thromboembolic events in non-valvular atrial fibrillation (NVAF) patients, as compared to other novel oral anticoagulant agents (NOACs), from the Italian Health System (SSN) perspective. **METHODS:** A previously published Markov model was adapted. Baseline clinical risks were assigned based on the demographic and clinical features of the patients; effectiveness parameters derived from adjusted indirect comparison using warfarin as link. Expected survival was projected beyond trial duration using national mortality data adjusted for clinical risks and weighted by published utilities. Unit costs were collected from official and published Italian sources. Costs (2013-€) and health gains occurring after the first year were discounted at an annual 3.5% rate. Deterministic and probabilistic sensitivity analyses (DSA&PSA) were carried out. **RESULTS:** In the short to medium term, apixaban was associated with marginal LYs and QALYs gains and slight savings. However, as apixaban extended expected survival versus dabigatran (110mg), dabigatran (150mg) and rivaroxaban (0.13, 0.08, and 0.06 LYs or 0.11, 0.07, and 0.05 QALYs), expected total lifetime costs exceeded those of these comparators (319,282,16 €). Corresponding ICERs were estimated in €2,911, €3,882 and €327 per QALY gained. In PSA, the probabilities of apixaban being cost effective with a WTP threshold of 20,000 €/QALY gained were 99%, 92% and 93% for the same comparisons. The most influential parameter according to DSA was daily cost of NOACs, but the corresponding ICERs remained well below commonly accepted WTP values. **CONCLUSIONS:** Apixaban is expected to be more effective than dabigatran and rivaroxaban in Italian NVAF patients, and marginally more costly due to costs in added years of life. The ICERs have a high likelihood of being below conventional thresholds of WTP for health benefits of the SSN and suggest that apixaban is cost-effective compared with other NOACs.